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1. The Protein Data Bank and the challenge of structural genomics

Helen M. Bernman, T. N. Blas, Philip E. Bourne, Zukang Feng, Gary Gilliland, Helge Weissig, John Westbrook, ...
SUMMARY: The PDB has created systems for the processing, exchange, query, and distribution of data that will enable many aspects of high throughput structural genomics....

CONTEXT: ...of structures on a genomic scale in a high-throughput mode will have an impact on every aspect of the Protein Data Bank (PDB) -- the single archive for all biomacromolecular structural data. Although estimates vary, the PDB could.....

Nature Structural Biology 7, 957 - 959 (01 Nov 2000) DOI: 10.1038/80734Perspectives
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2. Structural proteomics of an archaeon

Dinesh Christenat, Adelheid Yee, Akhil Dharmsri, Yuval Kugler, Alexei Savchenko, John R. Conr, Valente Bodai, Cameron D. Mackereth, Vivian Samudra, Irene Ekel, Guennadi Kozlov, Karen L. Maxwell, Ning Wu, Lawrence P. McIntosh, Kalle Gehring, Michael A. Kennedy, Alan R. Davidson, Emil F. Pai, Mark Gerstein, Alex M. Edwards, Cheryl H. Arnswirth
SUMMARY: A set of 424 nonmembrane proteins from *Methanobacterium thermoautotrophicum* were cloned, expressed and purified for structural studies. Of these, ~20% were, and to be...
CONTEXT: The completion and near completion of the sequencing phase of genome projects has ushered in the age of proteomics, the study of all gene products in an organism. This flood of sequence information coupled with recent advances in.....

Nature Structural Biology 7, 903 - 909 (01 Oct 2000) DOI: 10.1038/832823Article
[Full Text|PDF](#)

3. From structure to function: Approaches and limitations

Janel M. Thornton, Annabel Trost, Duncan Miltun, Neera Borakoti, Christine A. Orengo
SUMMARY: This review presents a summary of current approaches to extract functional information from structural data on proteins and their complexes. While structural homologs may...
CONTEXT: The essence of structural genomics is to start from the gene sequence, produce the protein and determine its three-dimensional structure. The challenge, once the structure is determined, is to extract useful biological information about.....

Nature Structural Biology 7, 991 - 994 (01 Nov 2000) DOI: 10.1038/80784Progress
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4. Structural genomics in the biotechnology sector

Sarah Dry, Sean McCarthy, Tim Harris
SUMMARY: Commercial efforts in structural genomics focus on providing to pharmaceutical customers information that relates to the suitability of specific proteins as drug targets and...
CONTEXT: Commercial structural genomics aims to capitalize upon, and extend, the recent flood of genomic sequence and expression information, translating it into a form that is directly applicable to target validation and to structure-aided.....

Nature Structural Biology 7, 946 - 949 (01 Nov 2000) DOI: 10.1038/80718Perspectives
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5. An overview of structural genomics

Stephen K. Burley
SUMMARY: With access to sequences of entire human genomes plus those of various model organisms and many important microbial pathogens, structural biology is on the...
CONTEXT: ...three-dimensional structural information with whole genome sequences are well-documented by the enormous success of investigator-initiated, hypothesis-driven biomedical research using X-ray crystallography and NMR spectroscopy. To.....

Nature Structural Biology 7, 932 - 934 (01 Nov 2000) DOI: 10.1038/80597Perspectives
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6. Artse, go forth, and solve structures

Description: In 1962 -- when Max Perutz and John Kendrew shared the Nobel prize for their...
CONTEXT: In 1962 -- when Max Perutz and John Kendrew shared the Nobel prize for their work on protein crystal structures -- who would have predicted that today there would be nearly 9,000 structures in a freely and easily accessible electronic.....

Nature Structural Biology 5, 1019 - 1020 (01 Dec 1998) DOI: 10.1038/41227Editorial
[Full Text|PDF](#)

7. Structural genomics of RNA

Jennifer A. Doucette
SUMMARY: A detailed understanding of the functions and interactions of biological macromolecules requires knowledge of their molecular structures. Structural genomics, the systematic determination of all...
CONTEXT: ...have important or essential biological functions in cells, beyond the well-established roles of ribosomal, transfer and messenger RNAs in protein biosynthesis. A partial list of such molecules includes catalytic RNAs, small nuclear.....

Nature Structural Biology 7, 954 - 956 (01 Nov 2000) DOI: 10.1038/80729Perspectives
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